
LD 37: Input/Output Diagnostic

This program is used to diagnose faults with disk units, tape units, Teletypewriter (TTY) or Serial Data Interface (SDI) cards. It provides enable, disable, status and test functions on these devices. Problems are indicated in IOD messages.

When LD 37 is defined as a daily routine, the program runs only once every 5 days and the primary storage device (disk or tape) is thoroughly tested (equivalent to command MSI 0 or TAPE 0).

Only some of the commands in this Overlay are supported by Options 51C, 61C, 81 and 81C. Refer to LD 137 for core commands.

Refer to LD 48 for I/O ports used with the following applications.

- Command and Status Links (CSL)
- Meridian Link
- Automatic Call Distribution (ACD)
- Integrated System Messaging Link
- Enhanced Serial Data Interface (ESDI) ports

Intelligent links (APL, HSL, LSL, and CMAC)

A warning message is generated each time an intelligent link is accessed (enable, disable, test). The message is generated for the following types of links:

- APL
- ACD-D (HSL/LSL)
- CMAC (CMC)

The message allows the access to be aborted prior to performing the enable, test, etc. The warning appears in the following format:

DIS TTY N (link type) LINK (status) (y/n)

A response of y disables the hardware of the TTY regardless of the software status of the link. The status field provides the software status of the link.

Valid status entries are:

BAD = software status is invalid

DOWN = link is down

MAINT = link is up and in maintenance mode

FULL = link is full

EMPTY = link is empty

NOT EMPTY = link still contains data

Disk commands versus tape commands

Various MSI (Mass Storage Interface) commands are not supported on Generic X37 and Generic X08 (prior to Release 12) and if equipped with disk drives, the corresponding TAPE command should be used when testing the MSI as follows:

Disk command	Tape command
DIS MSI x	DIS TAPE x
ENL MSI x	ENL TAPE x
MSI DATA	TAPE DATA
MSI x	TAPE x
MSI RW x	TAPE RW x
MSI SELF x	TAPE CTRL x
STAT MSI	STAT TAPE
STAT MSI x	STAT TAPE x

Use of the TAPE x or TAPE MOTN x commands on a system equipped with disk drives will result in an IOD075 message. This message should be disregarded.

If LD 37 is run as part of the daily routines, an IOD075 message will be output on systems equipped with disk drives. This message should be disregarded.

Basic commands

Not all commands are valid on Option 11 systems, as these systems do not use tape drives.

CDSP	Clear the maintenance display on active CPU to 00 or blank
CMIN	Clear the minor lamp on a system basis
CMIN ALL	Clear minor alarm indication on all attendant consoles
CMIN c	Clear minor alarm indication on attendant consoles for customer c (not applicable for Release 22)
DIS MSG	Disable incoming message monitoring for the primary PMSI port.
DIS MSGO	Disable outgoing message monitoring for the primary PMSI port.
DIS MSI x	Disable Mass Storage Interface card x (not valid on Option 11)
DIS PRT x	Disable printer x
DIS TAPE x	Disable tape unit x (not valid on Option 11)
DIS TTY x	Disable TTY x. (valid only for Card 0 Port 0 TTY on Option 11 systems)
END	Clear all test activity
ENL MSGI	Enable incoming message monitoring for the primary PMSI port.
ENL MSGO	Enable outgoing message monitoring for the primary PMSI port.
ENL MSI x	Enable Mass Storage Interface x
ENL PRT x	Enable printer x
ENL TAPE x	Enable tape unit x (not valid on Option 11)
ENL TTY x	Enable TTY x
MSI x	Test Mass Storage unit x (not valid on Option 11)
MSI DATA	Test data validity in primary and backup device. (not valid on Option 11)
MSI RW x	Test READ/WRITE ability of Mass Storage unit x. (not valid on Option 11)
MSI SELF x	Perform self-test on MSI card x and report result .(not valid on Option 11)
PRT x	Test printer x
SET MON 0	Set the monitoring display to be in alphanumeric format. This applies to the primary PMSI port.
SET MON 1	Set the monitoring display to be in hexadecimal format. This applies to the primary PMSI port.
STAT	Provide status of all input/output devices in system
STAT LINK	Provide status of all CDR links
STAT LINK x	Provide status of CDR data link x

STAT MON	Get the monitoring status for the primary PMSI port. This command displays the status of the message monitoring for the primary port. For example, if MSGI, MSGO, and SET MON 0 are enabled, the display would be as follows. MSGI:ON MSGO: ON ALPH
STAT MSI	Provide status of all MSI cards
STAT MSI x	Provide status of MSI card x
STAT PRT	Provide status of all printers in system
STAT PRT x	Provide status of printer x
STAT TAPE	Provide status of all magnetic tape devices . (not valid on Option 11)
STAT TTY	Provide status of all TTY devices in system Release 19 and later, this command enables you to get the status of the primary PMSI I/O port, and the Single Terminal Access (STA) administration terminal.
STAT TTY x	Provide status of TTY x Release 19 and later, this command also provides the status of the primary PMSI port.
STAT XSM	Provide status of the system monitor
TAPE CTRL x	Test control electronics on tape device x (not valid on Option 11)
TAPE DATA	Test data on all 4 tracks (not valid on Option 11)
TAPE MOTN x	Test motion and timing on tape device x (not valid on Option 11)
TAPE x	Test magnetic tape device x (not valid on Option 11)
TAPE RW x	Test READ/WRITE ability of tape device x (not valid on Option 11)
TTY x	Test TTY x

Multipurpose Serial Data Link (MSDL) commands

The MSDL provides 4 ports for ISDN Primary Rate D-channel (DCH) and Application Module Link (AML).

The MSDL commands are listed below, **x** is the MSDL device number (defined by prompt DNUM in LD 17). These commands are provided in Link Diagnostic (LD 48) and D-channel Diagnostic (LD 96).

DIS MSDL x (ALL)	Disable MSDL device x (card)
ENL MSDL x (ALL, FDL)	Enable MSDL device x (card, Forced Download)
RST MSDL x	Reset MSDL device x
SLFT MSDL x	Invoke self-test for MSDL device x
STAT MSDL (x) (FULL)	Get status of MSDL card (x) (additional information)

Note: See “Alphabetical List of commands” in LD 48 for a complete description of these commands.

Alphabetical list of commands

Command	Description	Pack/Rel
CDSP	Clear the maintenance display on active CPU to 00 or blank.	basic-1
CMIN	Clear the minor lamp on a system basis.	alarm_filter-22
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c. (not applicable for Release 22)	basic-1
DIS MSG	Disable incoming message monitoring for the primary PMSI port.	pms-19
DIS MSGO	Disable outgoing message monitoring for the primary PMSI port.	pms-19
DIS MSI x	Disable Mass Storage Interface card x.	basic-1
DIS MSDL x (ALL)	Disable MSDL device x	
DIS PRT x	Disable printer x.	basic-1
DIS TAPE x	Disable tape unit x.	basic-1
DIS TTY x	Disable TTY x. Only valid for Card 0 Port 0 TTY on Option 11 systems.	basic-1
END	Clear all test activity.	basic-1
ENL MSGI	Enable incoming message monitoring for the primary PMSI port.	pms-19
ENL MSGO	Enable outgoing message monitoring for the primary PMSI port.	pms-19
ENL MSI x	Enable Mass Storage Interface card x.	basic-1
ENL MSDL x (ALL, FDL)	Enable MSDL device x	

ENL PRT x	Enable printer x.	basic-1
ENL TAPE x	Enable tape unit x.	basic-1
ENL TTY x	Enable TTY x.	basic-1
MSI x	Test Mass Storage unit x. This command runs the MSI DATA, MSI RW x and MSI SELF x tests.	basic-1
MSI DATA	Test data validity in primary and backup device.	basic-1
MSI RW x	Test READ/WRITE ability of Mass Storage unit x.	basic-1
MSI SELF x	Perform self-test on MSI card and report result.	basic-1
PRT x	Test printer x. Same as TTY test except that no keyboard input is expected and END command is not required. Where: * denotes that the printer is not yet available	basic-1
RST MSDL x	Reset MSDL device x	
SET MON 0	Set the monitoring display to be in alphanumeric format. This applies to the primary PMSI port.	pms-19
SET MON 1	Set the monitoring display to be in hexadecimal format. This applies to the primary PMSI port.	pms-19
SLFT MSDL x	Invoke self-test for MSDL device x	
STAT	Provide status of all input/output devices in system.	basic-1
STAT LINK	Provide status of all CDR links.	basic-1
STAT LINK x	Provide status of CDR data link x.	basic-1
STAT MON	Get the monitoring status for the primary PMSI port. This command displays the status of the message monitoring for the primary port. For example, if MSGI, MSGO, and SET MON 0 are enabled, the display would be as follows. MSGI:ON MSGO: ON ALPH	pms-19

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STAT MSDL (x [FULL])	Get MSDL status	
STAT MSI	Provide status of all MSI cards.	basic-1
STAT MSI x	Provide status of MSI card x associated with the active CPU.	basic-1
STAT PRT	Provide status of all printers in system.	basic-1
STAT PRT x	Provide status of printer x.	basic-1
STAT TAPE	Provide status of all magnetic tape devices.	basic-1
STAT TTY	Provide status of all TTY devices in system. Release 19 and later, this command enables you to get the status of the primary PMSI I/O port, and the Single Terminal Access (STA) administration terminal.	basic-1
STAT TTY x	Provide status of TTY x. Release 19 and later, this command also provides the status of the primary PMSI port.	basic-1
STAT XSM	Provide status of the system monitor. If there are no error conditions, PWR000 is output. Otherwise, the appropriate PWR messages are output.	xpe-15
TAPE x	Test magnetic tape device x. This command combines the TAPE CTRL x, TAPE MOTN x, TAPE RW x and TAPE DATA tests.	basic-1
TAPE CTRL x	Test control electronics on tape device x.	basic-1
TAPE DATA	Test data on all 4 tracks.	basic-1
TAPE MOTN x	Test motion and timing on tape device x.	basic-1
TAPE RW x	Test READ/WRITE ability of tape device x.	basic-1
TTY x	Test TTY x. Response is: ABCDEFGHIJKLMNOPQRSTUVWXYZ 0123456789"#\$%*&()<>-.:,.? READY FOR INPUT Anything entered on the keyboard will be echoed until END is input.	basic-1
